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* * * * * Welcome to STN International * * * * *

| | | | |
|------|----|--------|--|
| NEWS | 1 | | Web Page for STN Seminar Schedule - N. America |
| NEWS | 2 | AUG 06 | CAS REGISTRY enhanced with new experimental property tags |
| NEWS | 3 | AUG 06 | FSTA enhanced with new thesaurus edition |
| NEWS | 4 | AUG 13 | CA/CAPplus enhanced with additional kind codes for granted patents |
| NEWS | 5 | AUG 20 | CA/CAPplus enhanced with CAS indexing in pre-1907 records |
| NEWS | 6 | AUG 27 | Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB |
| NEWS | 7 | AUG 27 | USPATOLD now available on STN |
| NEWS | 8 | AUG 28 | CAS REGISTRY enhanced with additional experimental spectral property data |
| NEWS | 9 | SEP 07 | STN AnaVist, Version 2.0, now available with Derwent World Patents Index |
| NEWS | 10 | SEP 13 | FORIS renamed to SOFIS |
| NEWS | 11 | SEP 13 | INPADOCDB enhanced with monthly SDI frequency |
| NEWS | 12 | SEP 17 | CA/CAPplus enhanced with printed CA page images from 1967-1998 |
| NEWS | 13 | SEP 17 | CAPplus coverage extended to include traditional medicine patents |
| NEWS | 14 | SEP 24 | EMBASE, EMBAL, and LEMBASE reloaded with enhancements |
| NEWS | 15 | OCT 02 | CA/CAPplus enhanced with pre-1907 records from Chemisches Zentralblatt |
| NEWS | 16 | OCT 19 | BEILSTEIN updated with new compounds |
| NEWS | 17 | NOV 15 | Derwent Indian patent publication number format enhanced |
| NEWS | 18 | NOV 19 | WPIX enhanced with XML display format |
| NEWS | 19 | NOV 30 | ICSD reloaded with enhancements |
| NEWS | 20 | DEC 04 | LINPADOCDB now available on STN |
| NEWS | 21 | DEC 14 | BEILSTEIN pricing structure to change |
| NEWS | 22 | DEC 17 | USPATOLD added to additional database clusters |
| NEWS | 23 | DEC 17 | IMSDRUGCONF removed from database clusters and STN |
| NEWS | 24 | DEC 17 | DGENE now includes more than 10 million sequences |
| NEWS | 25 | DEC 17 | TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment |
| NEWS | 26 | DEC 17 | MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary |
| NEWS | 27 | DEC 17 | CA/CAPplus enhanced with new custom IPC display formats |
| NEWS | 28 | DEC 17 | STN Viewer enhanced with full-text patent content from USPATOLD |
| NEWS | 29 | JAN 02 | STN pricing information for 2008 now available |
| NEWS | 30 | JAN 16 | CAS patent coverage enhanced to include exemplified prophetic substances |
| NEWS | 31 | JAN 28 | USPATFULL, USPAT2, and USPATOLD enhanced with new custom IPC display formats |
| NEWS | 32 | JAN 28 | MARPAT searching enhanced |
| NEWS | 33 | JAN 28 | USGENE now provides USPTO sequence data within 3 days of publication |
| NEWS | 34 | JAN 28 | TOXCENTER enhanced with reloaded MEDLINE segment |

NEWS 35 JAN 28 MEDLINE and LMEDLINE reloaded with enhancements
NEWS 36 FEB 08 STN Express, Version 8.3, now available

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 24 JANUARY 2008

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8

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specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 08:21:19 ON 12 FEB 2008

=> file reg

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|---------------------|------------------|
| FULL ESTIMATED COST | 0.21 | 0.21 |

FILE 'REGISTRY' ENTERED AT 08:21:28 ON 12 FEB 2008
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STRUCTURE FILE UPDATES: 11 FEB 2008 HIGHEST RN 1002789-56-1
DICTIONARY FILE UPDATES: 11 FEB 2008 HIGHEST RN 1002789-56-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

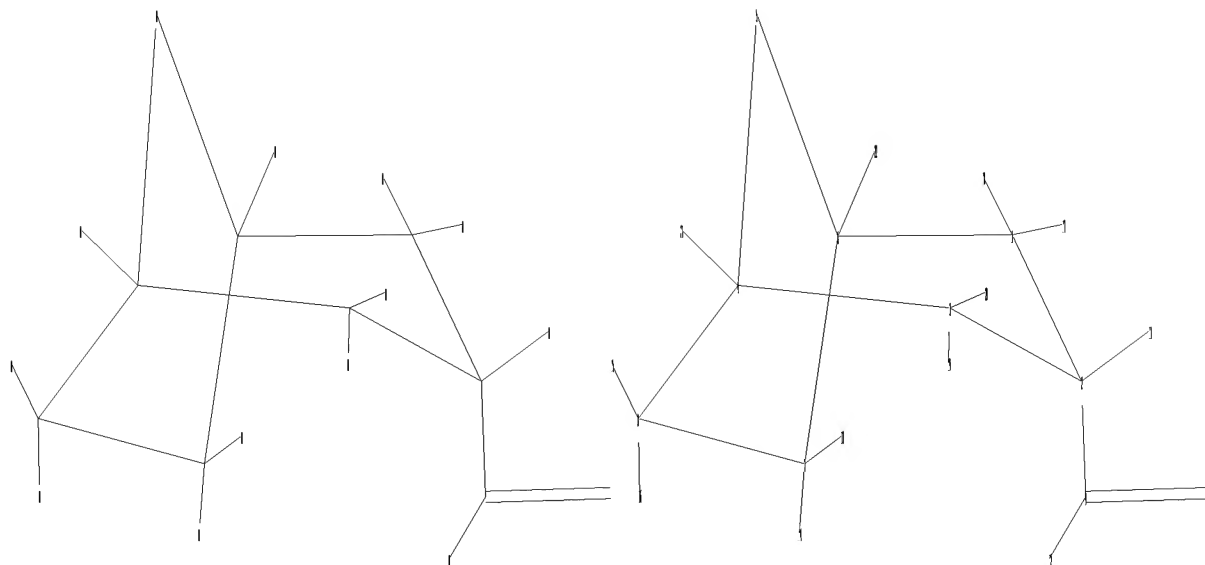
Please note that search-term pricing does apply when
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REGISTRY includes numerically searchable data for experimental and
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experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10565046.str



```

chain nodes :
9 10 11 12 13 14 15 16 17 18 19 20 21 22
ring nodes :
1 2 3 4 5 6 7 8
chain bonds :
1-17 1-18 2-9 2-11 3-19 3-20 4-21 6-22 7-13 7-14 8-15 8-16 9-10 9-12
ring bonds :
1-2 1-6 2-3 3-4 4-5 4-8 5-6 6-7 7-8
exact/norm bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact bonds :
1-17 1-18 2-9 2-11 3-19 3-20 4-8 4-21 6-7 6-22 7-8 7-13 7-14 8-15
8-16 9-10 9-12
isolated ring systems :
containing 1 :

```

```

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS
19:CLASS 20:CLASS 21:CLASS 22:CLASS

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L1 STRUCTURE UPLOADED

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SAMPLE SEARCH INITIATED 08:21:42 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 89 TO ITERATE

100.0% PROCESSED 89 ITERATIONS
SEARCH TIME: 00.00.01

5 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1214 TO 2346
PROJECTED ANSWERS: 5 TO 234

L2 5 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 08:21:48 FILE 'REGISTRY'
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100.0% PROCESSED 1821 ITERATIONS 116 ANSWERS
SEARCH TIME: 00.00.01

L3 116 SEA SSS FUL L1

=> file caplus

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST | 178.36 | 178.57 |

FILE 'CAPLUS' ENTERED AT 08:21:53 ON 12 FEB 2008
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FILE COVERS 1907 - 12 Feb 2008 VOL 148 ISS 7
FILE LAST UPDATED: 11 Feb 2008 (20080211/ED)

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=> s l3 full

L4 13 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2007:146107 CAPLUS
 DOCUMENT NUMBER: 146:229203
 TITLE: Preparation of azoniabicyclooctanes as M3 muscarinic acetylcholine receptor antagonists.
 INVENTOR(S): Busch-Petersen, Jakob; Laine, Dramane Ibrahim; Palovich, Michael R.; Davis, Roderick S.; Fu, Wei; Xie, Haibo
 PATENT ASSIGNEE(S): Glaxo Group Limited, UK
 SOURCE: PCT Int. Appl., 42pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

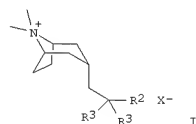
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| WO 2007016639 | A2 | 20070208 | WO 2006-US30153 | 20060802 |
| WO 2007016639 | A3 | 20070705 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, CA

PRIORITY APPLN. INFO.: US 2005-704579P P 20050802

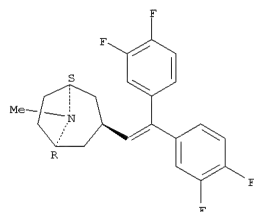
OTHER SOURCE(S): MARPAT 146:229203
 GI



AB Title compds. [I; R1, R2 = (substituted) Ph, thienyl, pyridyl, PhCH2, pyrimidinyl, thiazolyl, isothiazolyl, cycloalkyl, etc.; R3 = H, OH; X = physiol. acceptable anion], were prepared for treatment of chronic obstructive pulmonary disease, chronic bronchitis, asthma, chronic respiratory obstruction, pulmonary fibrosis, emphysema, and allergic rhinitis (no data). Thus, 2-[(3-endo)-8-methyl-8-azabicyclo[3.2.1]oct-3-yl]-1,1-bis(3-methyl-2-thienyl)ethanol (preparation given) was treated

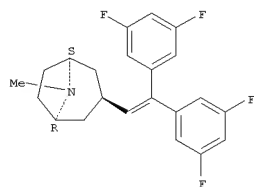
with MeBr in tert-Bu Me ether to give 61% (3-endo)-3-[2-hydroxy-2,2-bis(3-methyl-2-thienyl)ethyl]-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide.

L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



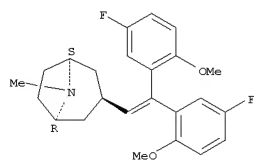
RN 924646-60-6 CAPLUS
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Relative stereochemistry.



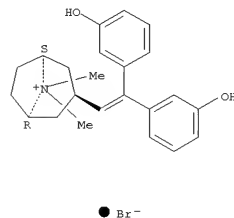
RN 924646-62-8 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(5-fluoro-2-methoxyphenyl)ethenyl]-8-methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.



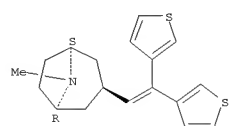
L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 IT 924646-34-4P 924646-56-0P 924646-58-2P
 924646-60-6P 924646-62-8P 924646-66-2P
 924646-84-4P 924646-85-5P 924646-86-6P
 (preparation of azoniabicyclooctanes as M3 muscarinic acetylcholine receptor antagonists)
 RN 924646-34-4 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(3-hydroxyphenyl)ethenyl]-8,8-dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.



RN 924646-56-0 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-di-3-thienylethenyl)-8-methyl-, (3-exo)- (CA INDEX NAME)

Relative stereochemistry.



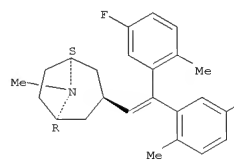
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 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(3,4-difluorophenyl)ethenyl]-8-methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

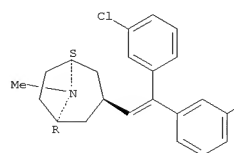
RN 924646-66-2 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(5-fluoro-2-methylphenyl)ethenyl]-8-methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.



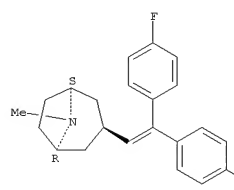
RN 924646-84-4 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(3-chlorophenyl)ethenyl]-8-methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.



RN 924646-85-5 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(4-fluorophenyl)ethenyl]-8-methyl-, (3-endo)- (CA INDEX NAME)

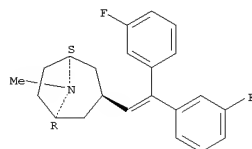
Relative stereochemistry.



L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RN 924646-86-6 CAPLUS
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(3-endo)- (CA INDEX NAME)

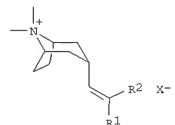
Relative stereochemistry.



L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:144089 CAPLUS
DOCUMENT NUMBER: 146:229182
TITLE: Preparation of 3-(arylethenyl)-8,8-dimethyl-8-
azoniabicyclo[3.3.1]octanes as M3 muscarinic
acetylcholine receptor antagonists.
INVENTOR(S): Busch-Petersen, Jakob; Laine, Dramane Ibrahim;
Palovich, Michael R.; Davis, Roderick S.; Fu, Wei;
Xie, Haibo
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 35pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|-------------------|-----------------|------------|
| WO 2007016650 | A2 | 20070208 | WO 2006-US30218 | 20060802 |
| WO 2007016650 | A3 | 20070531 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW | | | |
| RW: | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AF, EA, EP, OA | | | |
| PRIORITY APPLN. INFO.: | | | US 2005-704578P | P 20050802 |
| OTHER SOURCE(S): | | MARPAT 146:229182 | | |
| GI | | | | |



AB Title compds. [I; R1, R2 = (substituted) Ph, thienyl, pyridyl, PhCH2, pyrimidinyl, thiazolyl, isothiazolyl, cycloalkyl, etc.; X = pharmaceutically acceptable counterion], were prepared for treatment of COPD, chronic bronchitis, asthma, chronic respiratory obstruction, pulmonary fibrosis, emphysema, and allergic rhinitis (no data). Thus, (endo)-3-[2,2-bis(3-hydroxyphenyl)ethenyl]-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide was prepared from tri-Me

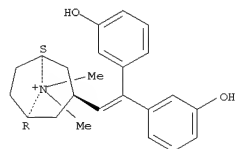
L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

phosphonoacetate, tropinone, MeI, and 3-methoxyphenylmagnesium bromide.
IT 924646-34-4P 924646-35-5P 924646-36-6P
924646-37-7P 924646-38-8P 924646-39-9P
924646-40-2P 924646-41-3P 924646-42-4P
924646-43-5P 924646-44-6P 924646-45-7P
924646-46-8P 924646-47-9P 924646-48-0P
924646-49-1P 924646-50-4P 924646-51-5P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(claimed compound; preparation of
arylethenyldimethylazoniabicyclooctanes as
M3 muscarinic acetylcholine receptor antagonists)

RN 924646-34-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(3-hydroxyphenyl)ethenyl]-8,8-
dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

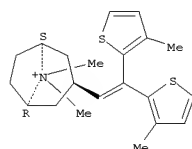
Relative stereochemistry.



● Br⁻

RN 924646-35-5 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(3-methyl-2-thienyl)ethenyl]-8,8-
dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

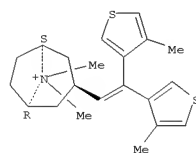


● Br⁻

L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RN 924646-36-6 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(4-methyl-3-thienyl)ethenyl]-8,8-
dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

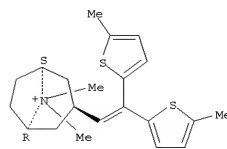
Relative stereochemistry.



● Br⁻

RN 924646-37-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(5-methyl-2-thienyl)ethenyl]-8,8-
dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

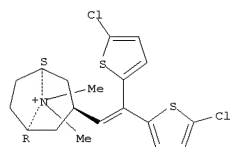
Relative stereochemistry.



● Br⁻

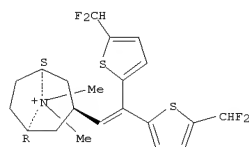
RN 924646-38-8 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(5-chloro-2-thienyl)ethenyl]-8,8-
dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

● Br⁻

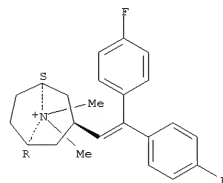
RN 924646-39-9 CAPLUS
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Relative stereochemistry.

● Br⁻

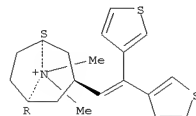
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Relative stereochemistry.

● I⁻

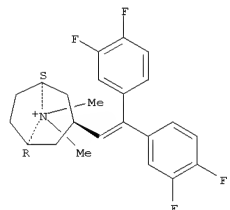
RN 924646-41-3 CAPLUS
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Relative stereochemistry.

● I⁻

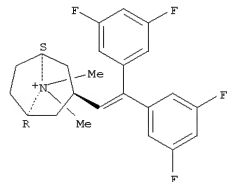
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Relative stereochemistry.

● Br⁻

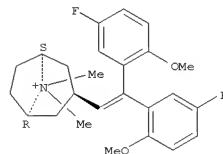
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Relative stereochemistry.

● Br⁻

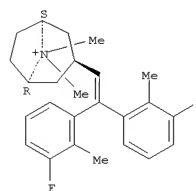
RN 924646-44-6 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(5-fluoro-2-methoxyphenyl)ethenyl]-8,8-dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

● Br⁻

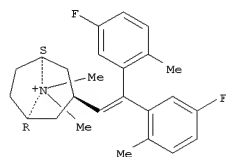
RN 924646-45-7 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(3-fluoro-2-methylphenyl)ethenyl]-8,8-dimethyl-, bromide (1:1), (3-exo)- (CA INDEX NAME)

Relative stereochemistry.

● Br⁻

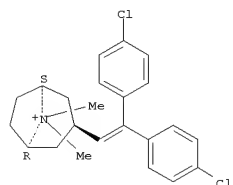
RN 924646-46-8 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(5-fluoro-2-methylphenyl)ethenyl]-8,8-dimethyl-, iodide (1:1), (3-exo)- (CA INDEX NAME)

Relative stereochemistry.

● I⁻

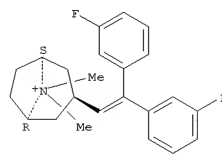
RN 924646-47-9 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(4-chlorophenyl)ethenyl]-8,8-dimethyl-, iodide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

● I⁻

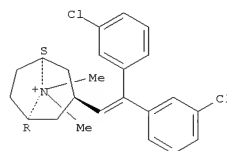
RN 924646-48-0 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(3-fluorophenyl)ethenyl]-8,8-dimethyl-, iodide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

● I⁻

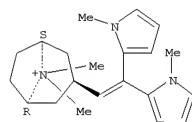
RN 924646-49-1 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(3-chlorophenyl)ethenyl]-8,8-dimethyl-, iodide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

● I⁻

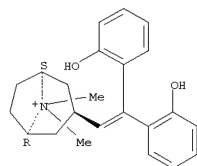
RN 924646-50-4 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(1-methyl-1H-pyrrol-2-yl)ethenyl]-8,8-dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

● Br⁻

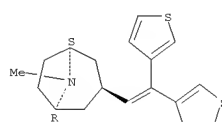
RN 924646-51-5 CAPLUS
 CN 8-Azoniabicyclo[3.2.1]octane, 3-[2,2-bis(2-hydroxyphenyl)ethenyl]-8,8-dimethyl-, bromide (1:1), (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

● Br⁻

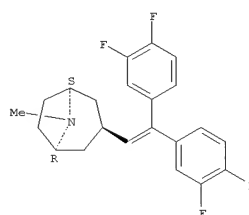
IT 924646-56-0P 924646-58-2P 924646-60-6P
 924646-62-8P 924646-64-0P 924646-66-2P
 924646-83-3P 924646-84-4P 924646-85-5P
 924646-86-6P 924646-87-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of arylenyldimethylazoniabicyclooctanes as M3 muscarinic acetylcholine receptor antagonists)
 RN 924646-56-0 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-di-3-thienylethenyl)-8-methyl-, (3-exo)- (CA INDEX NAME)

Relative stereochemistry.



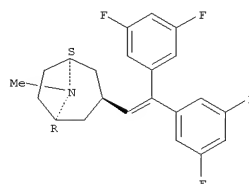
RN 924646-58-2 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(3,4-difluorophenyl)ethenyl]-8-methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.



RN 924646-60-6 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(3,5-difluorophenyl)ethenyl]-8-methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

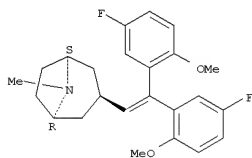


RN 924646-62-8 CAPLUS

L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

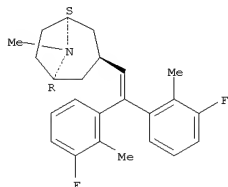
CN 8-Azabicyclo[3.2.1]octane,
3-[2,2-bis(5-fluoro-2-methoxyphenyl)ethenyl]-8-
methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.



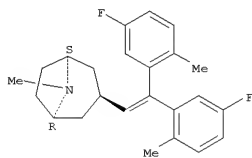
RN 924646-64-0 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(3-fluoro-2-methylphenyl)ethenyl]-8-
methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

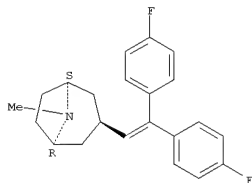


RN 924646-66-2 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(5-fluoro-2-methylphenyl)ethenyl]-8-
methyl-, (3-endo)- (CA INDEX NAME)

Relative stereochemistry.

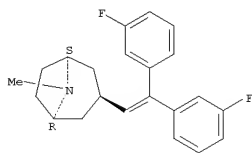


L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)



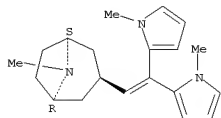
RN 924646-86-6 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(3-fluorophenyl)ethenyl]-8-methyl-,
(3-endo)- (CA INDEX NAME)

Relative stereochemistry.



RN 924646-87-7 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(1-methyl-1H-pyrrol-2-yl)ethenyl]-8-
methyl-, (3-exo)- (CA INDEX NAME)

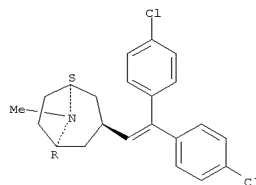
Relative stereochemistry.



L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)

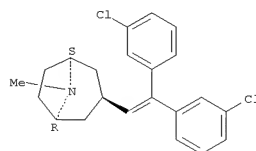
RN 924646-83-3 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(4-chlorophenyl)ethenyl]-8-methyl-,
(3-endo)- (CA INDEX NAME)

Relative stereochemistry.



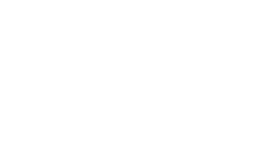
RN 924646-84-4 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(3-chlorophenyl)ethenyl]-8-methyl-,
(3-endo)- (CA INDEX NAME)

Relative stereochemistry.



RN 924646-85-5 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(4-fluorophenyl)ethenyl]-8-methyl-,
(3-endo)- (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN

ACCESSION NUMBER: 2006:578252 CAPLUS
DOCUMENT NUMBER: 145:55947
TITLE: Muscarinic antagonists for the treatment of
respiratory diseases
INVENTOR(S): Laine, Dramane Ibrahim; Palovich, Michael R.
PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA
SOURCE: PCT Int. Appl., 21 pp.
CODEN: FIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| WO 2006062883 | A2 | 20060615 | WO 2005-US43875 | 20051205 |
| WO 2006062883 | A3 | 20070329 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,
MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-633669P P 20041206

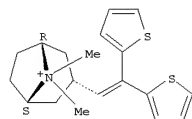
OTHER SOURCE(S): MARPAT 145:55947

AB This invention relates to derivs. of 8-azoniabicyclo[3.2.1]octane,
pharmaceutical compns. in combination with one or more other therapeutic
ingredients, such as β 2-adrenoreceptor agonists, antihistamines,
allergy inhibitors, and inflammation inhibitors for the treatment of
muscarinic acetylcholine receptor-mediated diseases of the respiratory
tract. A claimed combination medication includes (3-endo)-3-(2,2-di-
thienylethenyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide,
salmeterol xinafoate, and fluticasone propionate.

IT 108042-35-9 834881-95-7
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(muscarinic antagonists for treatment of respiratory diseases)

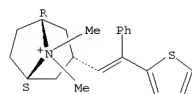
RN 102924-25-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-di-2-thienylethenyl)-8,8-dimethyl-,
bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

● Br⁻

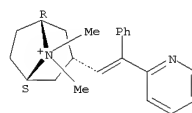
RN 107422-05-9 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-phenyl-2-(2-thienyl)ethenyl]-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.

● Br⁻

RN 107894-96-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-phenyl-2-(2-pyridinyl)ethenyl]-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.

● Br⁻

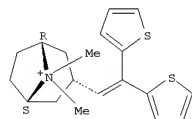
RN 108042-35-9 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8,8-dimethyl-,

L4 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
3-oxo-17-(1-oxopropoxy)-, S-(fluoromethyl) ester, (6α,11β,16α,17α)-, mixt. with (3-endo)-3-(2,2-di-2-thienylethenyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide and 1-hydroxy-2-naphthalenecarboxylic acid compd. with 4-hydroxy-α1-[[[6-(4-phenylbutoxy)hexyl]amino]methyl]-1,3-benzenedimethanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 102924-25-4
CMF C19 H24 N S2 . Br

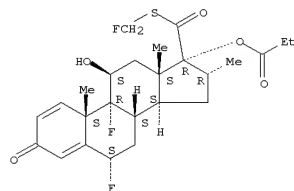
Relative stereochemistry.

● Br⁻

CM 2

CRN 80474-14-2
CMF C25 H31 F3 O5 S

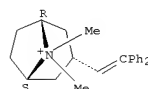
Absolute stereochemistry.



CM 3

CRN 94749-08-3
CMF C25 H37 N O4 . C11 H8 O3

Relative stereochemistry.

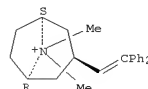
● Br⁻

RN 834881-95-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

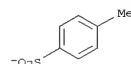
CRN 715649-17-5
CMF C23 H28 N

Relative stereochemistry.



CM 2

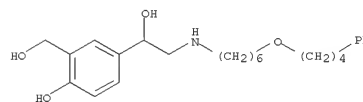
CRN 16722-51-3
CMF C7 H7 O3 S



IT 890126-10-0
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muscarinic antagonists in combination with other actives for treatment of respiratory diseases)
RN 890126-10-0 CAPLUS
CN Androsta-1,4-diene-17-carbothioic acid, 6,9-difluoro-11-hydroxy-16-methyl-

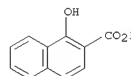
CM 4

CRN 89365-50-4
CMF C25 H37 N O4



CM 5

CRN 86-48-6
CMF C11 H8 O3



L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:558688 CAPLUS
DOCUMENT NUMBER: 145:40272
TITLE: Muscarinic antagonists in combination with
β2-adrenoreceptor agonists and/or
anti-inflammatories for the treatment of respiratory
diseases
INVENTOR(S): Laine, Dramane Ibrahim; Palovich, Michael R.
PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|-----------------|-----------------|----------|
| WO 2006062931 | A2 | 20060615 | WO 2005-US44033 | 20051205 |
| WO 2006062931 | A3 | 20070419 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| RW: | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TV, TM, AP, EA, EP, OA | | | |
| PRIORITY APPLN. INFO.: | | US 2004-633618P | P | 20041206 |

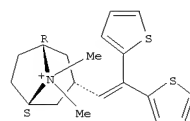
AB This invention relates to a combination of (3-endo)-3-(2,2-di-thienylethenyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide, with one or more other therapeutic ingredients selected from β2-adrenoreceptor agonists and inflammation inhibitors for the treatment of muscarinic acetylcholine receptor-mediated diseases of the respiratory tract. A claimed combination medication includes (3-endo)-3-(2,2-di-thienylethenyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide, salmeterol xinafoate, and fluticasone propionate.

IT 102924-25-4 890126-10-0
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muscarinic antagonists in combination with β2-adrenoreceptor agonists and/or anti-inflammatories for treatment of respiratory diseases)

RN 102924-25-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-di-2-thienylethenyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



● Br⁻

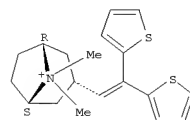
RN 890126-10-0 CAPLUS
CN Androsta-1,4-diene-17-carbothioic acid, 6,9-difluoro-11-hydroxy-16-methyl-3-oxo-17-(1-oxopropoxy)-, S-(fluoromethyl) ester, (6α,11β,16α,17α)-, mixt. with (3-endo)-3-(2,2-di-2-thienylethenyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide and 1-hydroxy-2-naphthalenecarboxylic acid compd. with 4-hydroxy-al-[[16-(4-phenylbutoxy)hexyl]amino]methyl]-1,3-benzenedimethanol (1:1) (9CI)

(CA INDEX NAME)

CM 1

CRN 102924-25-4
CMF C19 H24 N S2 . Br

Relative stereochemistry.



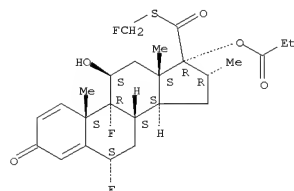
● Br⁻

CM 2

CRN 80474-14-2
CMF C25 H31 F3 O5 S

Absolute stereochemistry.

L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

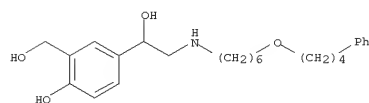


CM 3

CRN 94749-08-3
CMF C25 H37 N O4 . C11 H8 O3

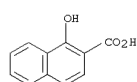
CM 4

CRN 89365-50-4
CMF C25 H37 N O4



CM 5

CRN 86-48-6
CMF C11 H8 O3

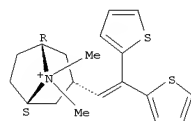


L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:99356 CAPLUS
DOCUMENT NUMBER: 142:183482
TITLE: Muscarinic acetylcholine receptor antagonists
INVENTOR(S): Belmonte, Kristen E.; Busch-Petersen, Jakob; Laine, Dramane; Palovich, Michael R.
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|------------------|------------|
| WO 2005009439 | A1 | 20050203 | WO 2004-US22947 | 20040716 |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| RW: | BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| AU 2004259232 | A1 | 20050203 | AU 2004-259232 | 20040716 |
| CA 2532375 | A1 | 20050203 | CA 2004-2532375 | 20040716 |
| EP 1648460 | A1 | 20060426 | EP 2004-778451 | 20040716 |
| R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, HR | | | |
| CN 1822838 | A | 20060823 | CN 2004-80020649 | 20040716 |
| BR 2004012716 | A | 20060926 | BR 2004-12716 | 20040716 |
| JP 2007523877 | T | 20070823 | JP 2006-520377 | 20040716 |
| IN 2006DN00074 | A | 20070824 | IN 2006-DN74 | 20060104 |
| MX 2006PA00662 | A | 20060330 | MX 2006-PA662 | 20060117 |
| US 2006178395 | A1 | 20060810 | US 2006-565046 | 20060117 |
| NO 2006000775 | A | 20060411 | NO 2006-775 | 20060217 |
| PRIORITY APPLN. INFO.: | | | US 2003-487981P | P 20030717 |
| | | | WO 2004-US22947 | W 20040716 |

OTHER SOURCE(S): MARPAT 142:183482
AB Muscarinic acetylcholine receptor antagonists, e.g., (3-endo)-3-(2,2-diphenylethenyl)-8,8-dimethyl-8-azoniabicyclo[3.2.1]octane bromide and methods of using them are provided. In addition a pharmaceutical composition for the treatment of muscarinic acetylcholinereceptor-mediated diseases comprising the above compound is disclosed.
IT 102924-25-4 107422-05-9 107894-96-2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(muscarinic acetylcholine receptor antagonists)
RN 102924-25-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-di-2-thienylethenyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

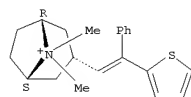
L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
Relative stereochemistry.



● Br⁻

RN 107422-05-9 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-phenyl-2-(2-thienyl)ethenyl]-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

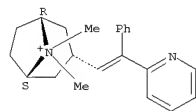
Relative stereochemistry.
Double bond geometry unknown.



● Br⁻

RN 107894-96-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-phenyl-2-(2-pyridinyl)ethenyl]-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.



● Br⁻

RN 108042-35-9 CAPLUS

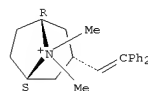
L4 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:756683 CAPLUS
DOCUMENT NUMBER: 141:260786
TITLE: Preparation of nitrogenous heterocyclic derivatives having 2,6-disubstituted styryl as sodium channel inhibitors
INVENTOR(S): Kikuchi, Kazumi; Oku, Makoto; Fujiyasu, Jiro; Asai, Norio; Watanabe, Toshihiro; Nagakura, Yukinori; Tomiyama, Hiroshi; Sonegawa, Motoharu; Tokuzaki, Kazuo; Iwai, Yoshinori
PATENT ASSIGNEE(S): Yamanouchi Pharmaceutical Co. Ltd., Japan; Kotobuki Pharmaceutical Co. Ltd.
SOURCE: FCI Int. Appl., 84 pp.
CODEN: FIKXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|------------|
| WO 2004078715 | A1 | 20040916 | WO 2004-JP2842 | 20040305 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2004218115 | A1 | 20040916 | AU 2004-218115 | 20040305 |
| CA 2517081 | A1 | 20040916 | CA 2004-2517081 | 20040305 |
| EP 1602645 | A1 | 20051207 | EP 2004-717835 | 20040305 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK | | | | |
| BR 2004008136 | A | 20060301 | BR 2004-8136 | 20040305 |
| CN 1756740 | A | 20060405 | CN 2004-80005921 | 20040305 |
| MX 2005PA09290 | A | 20060531 | MX 2005-PA9290 | 20050831 |
| NO 2005004607 | A | 20051206 | NO 2005-4607 | 20051006 |
| IN 2005KN01977 | A | 20061110 | IN 2005-KN1977 | 20051006 |
| US 2007099956 | A1 | 20070503 | US 2006-548197 | 20061213 |
| PRIORITY APPLN. INFO.: | | | JF 2003-61758 | A 20030307 |
| | | | WO 2004-JP2842 | W 20040305 |

OTHER SOURCE(S): MARPAT 141:260786
GI

L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



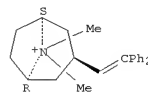
● Br⁻

RN 834881-95-7 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8,8-dimethyl-, (3-endo)-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

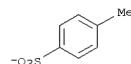
CRN 715649-17-5
CMF C23 H28 N

Relative stereochemistry.



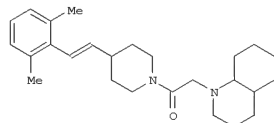
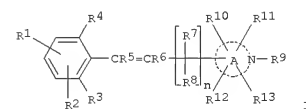
CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

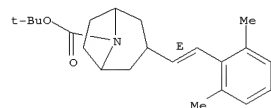
L4 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



AB Novel nitrogenous heterocyclic derivs. having 2,6-disubstituted styryl or pharmaceutically acceptable salts thereof [I; R₁, R₂ = H, (un)substituted lower alkyl, cycloalkyl, aryl, acyl, CO₂H, lower alkoxy, carbonyl, CONH₂, mono- or di(lower alkyl)carbamoyl, HO, lower alkoxy, aryloxy, aryloxy, NH₂, mono- or di(lower alkyl)amino, acylamino, halo, NO₂, heterocycl, cyano; R₃, R₄ = (un)substituted lower alkyl, cycloalkyl, acyl, CO₂H, lower alkoxy, carbonyl, CONH₂, mono- or di(lower alkyl)carbamoyl, HO, lower alkoxy, acyloxy, NH₂, mono- or di(lower alkyl)amino, acylamino, halo, NO₂, cyano; R₅, R₆ = H, lower alkyl, halo; R₇, R₈ = H, lower alkyl, HO, lower alkoxy, halo; or R₇ and R₈ together represents oxo; R₉ = H, each (un)substituted lower alkyl, cycloalkyl, acyl, lower alkoxy, carbonyl, lower alkylsulfon, or heterocyclisulfon, lower alkyl-C(=NH), CO₂H, mono- or di((un)substituted lower alkyl)amino; R₁₀-R₁₃ = H or lower alkyl, or two groups of R₁₀-R₁₃ together form oxo] are prepared Also disclosed is a medicinal composition comprising the nitrogenous heterocyclic derivative I or pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier, especially a medicinal composition for sodium channel inhibitors which has high analgetic activity against neurogenic pains or diabetic neuropathy and is reduced in side effects. Thus, 125 mg 1-benzyl-4-[(E)-2-(2,6-dimethylphenyl)vinyl]-3-methylpiperidine was dissolved in 3 mL 1,2-dichloroethane, treated with 139 mg 1-chloroethyl chloroformate, refluxed for 1 h, cooled, treated with 10 mL MeOH, refluxed for 30 min to give, after workup and recrystn. from EtOAc-MeOH, 4-[(E)-2-(2,6-dimethylphenyl)vinyl]-3-methylpiperidine monohydrochloride (II). In a sodium channel-inhibitory assay, II and 4-[(E)-2-(2,6-dimethylphenyl)vinyl]piperidine derivative (III) inhibited the veratridine-induced uptake of [14C]guanidine in rat brain tissue with IC₅₀ of 8.7 and 1.1 μM, resp., vs. 70 μM for mexiletine.

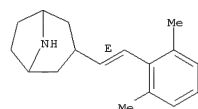
L4 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 IT 756878-55-4P 756878-56-5P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of nitrogenous heterocyclic derivs. having styryl as sodium channel inhibitors for treatment of neurogenic pains or pain associated with diabetic neuropathy)
 RN 756878-55-4 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane-8-carboxylic acid, 3-[(1E)-2-(2,6-dimethylphenyl)ethenyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 756878-56-5 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[(1E)-2-(2,6-dimethylphenyl)ethenyl]-, hydrochloride (9CI) (CA INDEX NAME)

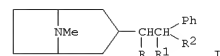
Double bond geometry as shown.



● HCl

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

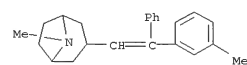
L4 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1994:164586 CAPLUS
 DOCUMENT NUMBER: 120:164586
 TITLE: Synthesis of anticholinergics of 3-substituted tropane derivatives
 AUTHOR(S): Wu, Peijin; Ran, Yunzhang; Wen, Guangling; Zhang, Qikai
 CORPORATE SOURCE: Inst. Pharmacol. Toxicol., Acad. Mil. Med. Sci., Beijing, 100850, Peop. Rep. China
 SOURCE: Zhongguo Yaowu Huaxue Zazhi (1993), 3(1), 23-6
 CODEN: ZYHZEJ; ISSN: 1005-0108
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 GI



AB Title compds. I (R, R1 = H, OH; RR1 = bond; R2 = 3-MeC6H4, 4-ClC6H4) were prepared starting from Et 3-tropanylacetate. I showed anticholinergic activity in mice.

IT 153307-16-5P 153307-17-6P 153307-19-8P 153307-20-1P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and anticholinergic activity of)

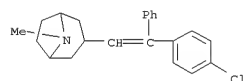
RN 153307-16-5 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 8-methyl-3-[2-(3-methylphenyl)-2-phenylethenyl]-, hydrochloride (9CI) (CA INDEX NAME)



● HCl

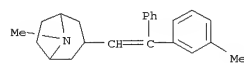
RN 153307-17-6 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2-(4-chlorophenyl)-2-phenylethenyl]-8-methyl-, hydrochloride (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

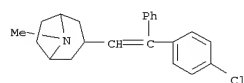


● HCl

RN 153307-19-8 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 8-methyl-3-[2-(3-methylphenyl)-2-phenylethenyl]-, (CA INDEX NAME)

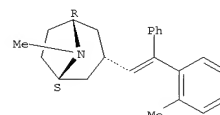


RN 153307-20-1 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2-(4-chlorophenyl)-2-phenylethenyl]-8-methyl-, (CA INDEX NAME)

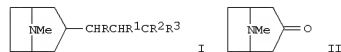


L4 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1986:95588 CAPLUS
 DOCUMENT NUMBER: 104:95588
 ORIGINAL REFERENCE NO.: 104:15049a,15052a
 TITLE: The fluorometric ion pair method for the determination of several tertiary amines
 AUTHOR(S): Zhang, Liming; Yu, Yongxiang
 CORPORATE SOURCE: Acad. Mil. Med. Sci., Beijing, Peop. Rep. China
 SOURCE: Yaoxue Xuebao (1985), 20(10), 752-8
 CODEN: YHHPAL; ISSN: 0513-4870
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Tertiary amines (nonfluorescent) at low concns. (10⁻⁸ to 10⁻⁷M) are dissolved in pH 2-4 phosphate buffer, mixed with aqueous Na 9,10-dimethoxyanthracene-2-sulfonate, extracted with 1,2-dichloroethane, and the fluorescence is measured at 446 nm (excitation 383 nm). Fluorescence-concentration plots were linear for approx. 5-100 ng/mL of benethtropine, kemadrin, methylbenethtropine, caramiphen, gangleron, and benztropine. The limit of detection was 1 ng/mL and the relative standard deviation was <5.
 IT 100345-20-8
 RL: ANI (Analyte); ANST (Analytical study) (determination of, by fluorometry of ion pair with dimethoxyanthracene sulfonate)
 RN 100345-20-8 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 8-methyl-3-[2-(2-methylphenyl)-2-phenylethenyl]-, endo- (9CI) (CA INDEX NAME)

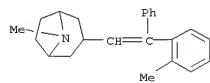
Relative stereochemistry.
 Double bond geometry unknown.



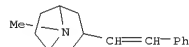
L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1985:505186 CAPLUS
 DOCUMENT NUMBER: 103:105186
 ORIGINAL REFERENCE NO.: 103:16860h,16861a
 TITLE: Studies on anticholinergics: synthesis of
 3-substituted tropane derivatives
 AUTHOR(S): Ran, Yunzhang; Wu, Peijin; Wen, Guangling; Zhang,
 Qikai
 CORPORATE SOURCE: Inst. Pharmacol. Toxicol., Acad. Milit. Med. Sci.,
 Beijing, Peop. Rep. China
 SOURCE: Yaoxue Xuebao (1984), 19(5), 361-6
 CODEN: YHHPAL; ISSN: 0513-4870
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 GI



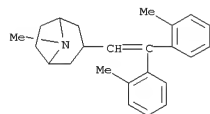
AB Tropanes I (R = H, R1 = OH, R2 = Ph, 2-MeC6H4, 4-MeC6H4, 4-MeOC6H4,
 2-pyrrolyl, cyclopentyl, R3 = H, Ph, 2-MeC6H4, cyclopentyl; RR1 = bond,
 R2,R3 = same as above; R = R1 = H, R2,R3 = same as above) were prepared
 from 3-tropanone (II). Most of I showed anticholinergic activity in mice.
 Structure-activity relationships was discussed.
 IT 88543-21-9P 98042-91-2P 98042-92-3P
 98042-93-4P 98042-94-5P 98042-95-6P
 98042-96-7P 98042-97-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation, hydrogenation, and anticholinergic activity of)
 RN 88543-21-9 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane,
 8-methyl-3-[2-(2-methylphenyl)-2-phenylethenyl]-
 (CA INDEX NAME)



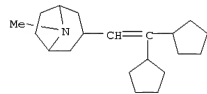
RN 98042-91-2 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 8-methyl-3-(2-phenylethenyl)- (CA INDEX NAME)



L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

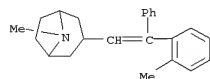


RN 98042-97-8 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-dicyclopentylethenyl)-8-methyl-
 hydrochloride (9CI) (CA INDEX NAME)

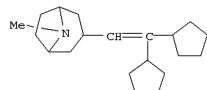


● HCl

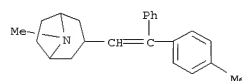
IT 88543-21-9P 98043-09-5P 98988-11-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, salt formation, and anticholinergic activity of)
 RN 88543-21-9 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane,
 8-methyl-3-[2-(2-methylphenyl)-2-phenylethenyl]-
 (CA INDEX NAME)



RN 98043-09-5 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-dicyclopentylethenyl)-8-methyl- (CA
 INDEX NAME)

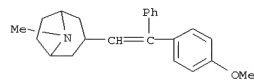


L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
 RN 98042-92-3 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane,
 8-methyl-3-[2-(4-methylphenyl)-2-phenylethenyl]-
 , hydrochloride (9CI) (CA INDEX NAME)

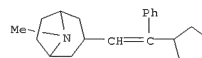


● HCl

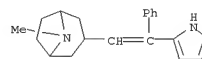
RN 98042-93-4 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2-(4-methoxyphenyl)-2-phenylethenyl]-8-
 methyl- (CA INDEX NAME)



RN 98042-94-5 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-(2-cyclopentyl-2-phenylethenyl)-8-methyl-
 (CA INDEX NAME)



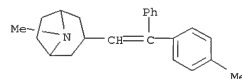
RN 98042-95-6 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane,
 8-methyl-3-[2-phenyl-2-(1H-pyrrol-2-yl)ethenyl]-
 (CA INDEX NAME)



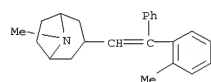
RN 98042-96-7 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-[2,2-bis(2-methylphenyl)ethenyl]-8-methyl-
 (CA INDEX NAME)

L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RN 98988-11-5 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane,
 8-methyl-3-[2-(4-methylphenyl)-2-phenylethenyl]-
 (CA INDEX NAME)



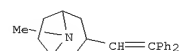
L4 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN
ACCESSION NUMBER: 1984:56732 CAPLUS
DOCUMENT NUMBER: 100:56732
ORIGINAL REFERENCE NO.: 100:8599a,8602a
TITLE: Studies on percent distribution of tertiary amine drugs
AUTHOR(S): Yu, Yongxiang; Yu, Yun Hsiang
CORPORATE SOURCE: Acad. Mil. Med. Sci., Beijing, Peop. Rep. China
SOURCE: Yaoxue Xuebao (1983), 18(10), 766-74
CODEN: YHHPAL; ISSN: 0513-4870
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB The partition of tertiary amine drugs between various organic solvent systems and H2O in the presence of extractants (salts) was studied. The percent distribution (PD) of the tertiary amines increased with increasing dielec. consts. of solvent mixture When sulfate substituent extractants were added, the PD increased with increasing lipophilic properties of the substituted group. Addition of different inorg. salts did not change the pattern of PD curves, nor the pH value of the rising point of these curves, but their height was affected. The effect of salts on the PD of tertiary amines was in the order: ClO4->Br->NO3->Cl->SO42->PO42-; monobasic acid salt>dibasic acid salt>tribasic acid salt. When monobasic acid salts were added, the PD decreased with decreasing mol. wts. of these acid radicals. Addition of organic acid salts to the water phase caused the PD to increase and the pH value at which the PD reached 100% to decrease. Increasing the hydrophilic group or electroneg. group in the mol. of either the extractant or tertiary amines caused the PD to become smaller, and increasing lipophilic group or the number of C atoms caused it to become larger. The pKa of tertiary amines played a role only at such a stage (weakly acidic aqueous phase) that its ionic form was changing to the mol. form. However, it was still affected by lipophilic groups. The effect of the aqueous phase on PD at different acidic and basic stages and the relationship between different cases of solvent extraction are discussed.
IT 88543-21-9 88543-22-0
RL: PRP (Properties)
(partition of, between organic solvents and water, salts effect on)
RN 88543-21-9 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 8-methyl-3-[(2-(2-methylphenyl)-2-phenylethenyl)]- (CA INDEX NAME)



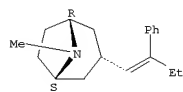
RN 88543-22-0 CAPLUS

L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN
ACCESSION NUMBER: 1963:27160 CAPLUS
DOCUMENT NUMBER: 58:27160
ORIGINAL REFERENCE NO.: 58:4510b-h
TITLE: 3-Substituted tropane derivatives. III. 3-Substituted tropane carbinols, alkenes, and alkanes
AUTHOR(S): Zirkle, Charles L.; Anderson, Elvin L.; Craig, Paul N.; Gerns, Fred R.; Indik, Zena K.; Pavloff, Alex M.
CORPORATE SOURCE: Smith, Kline, & French Labs., Philadelphia, PA
SOURCE: Journal of Medicinal & Pharmaceutical Chemistry (1962), 5, 341-56
CODEN: JUMPCAS; ISSN: 0095-9065
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 58:27160
GI For diagram(s), see printed CA issue.
AB cf. CA 57, 3389b. For testing as cholinolytic agents, a series of 3-substituted tropane derivs. (Ia) were prepared by the following sequence:
(X = 3 α , or 3 β -tropinyl) X(CH2)nCO2Me \rightarrow X(CH2)nCOR (I) \rightarrow X(CH2)nC(OH)RR' (II) \rightarrow X: CRR' (III), XCH: CRR' (IV), or XCH2C: CRR' (V) \rightarrow X(CH2)nCHRR' (VI) using the procedures followed by Adamson for open-chain analogs (Adamson, et al., CA 45, 8462f). Compds. prepared were (compound number, tropinyl group configuration, n, R, R', % yield, m.p., b.p./pressure, n25D, salts prepared with m.p. of each, and relative activity (atropine = 1) given): I, α , 0, 2-thienyl, --, 4.4, --, 142-3°/0.4, --, picrate 259°, --; I, α , 1, Ph, --, 75, --, 140-3°/0.2, --, HCl 140-3°, --; I, α , 1, cyclohexyl, --, 35, --, 142-4°/0.8, --, picrate 165-8°, MeBr 297-9°, --; I, α , 1, 2-cyclohexylethyl, --, 74, --, 157-64°/0.7, 1.5010, picrate 148-50°, --; I, α , 2, Et, --, 77, --, 105-9°/0.35, 1.4870, picrate 123.0-4.5°, --; II, β , O, Me, Me, 84, --, 116-19°/4, --, picrate 167.5-9.0°, MeI 199-202°, --; II, α , O, 2-thienyl, 2-thienyl, 8.0, 157.5-9.0°, --, --, --; II, α , O, Ph, Ph, 47, 185.5-6.0°, --, --, HCl 290°, citrate 112-18° picrate 214.0-15.5°, MeBr 309-10°, citrate 0.001, MeBr salt 0.1; II, β , O, Ph, Ph, 86, 182-4°, --, --, HCl 325°, picrate 230-1°, HCl salt 0.001; II, α , 1, Ph, Ph, 76, 147-8°, --, --, HCl 235°, HBr 230°, MeBr 282°, HCl salt 1, MeBr salt 0.1-1.0; II, β , 1, Ph, Ph, --, 178-9°, --, --, HCl 253.5°, HCl salt 0.001; II, α , 1, cyclohexyl, Ph, 90, 139.0-40.5°, --, --, HCl 254.5°, MeBr 262°, HCl salt 0.1; II, α , 1, 2-cyclohexylethyl, Ph, above 66, 104-6°, --, --, HCl 215-16°, citrate 134-6°, MeBr 263-5°, HCl salt 0.01; II, α , 1, Ph, Et, 12, --, --, --, HCl 237°, HCl salt 0.01-0.10; II, α , 1, 2-pyridyl, Ph, 64, 117.5-18.5°, --, --, HI 194-6°, dipicrate 191-2°, MeBr 268°, HI salt 0.01; II, α , 1, Ph, 2-thienyl, 73, 137.5-9.0°, --, --, maleate 145-6°, MeBr 256°, maleate 1, II, α , 1, 2-thienyl, 2-thienyl, 69, 138-40°, --, --, HOAc 189-90°, MeBr 245.5°, HOAc salt 1; II, α , 2, Ph, Ph, 92, 142-3°, --, --, HCl 249-50°, MeBr 299°, HCl salt 0.01, MeBr salt 0.1; III, --, --, Ph, Ph, --, --, --, HCl 275-8°, picrate 237-8°, MeBr 281-5°, HCl salt 0.01, MeBr salt 0.1-1.0; III, --, --, 2-thienyl, 2-thienyl, 76 --, --, --, HCl 224-5°, --; IV, α , --, Ph, Ph, 100, 111-12°, --, --, HCl 217-18°, picrate 186-8°, MeBr 286° HCl salt 1-10, MeBr salt 0.1-1.0; IV, α , --, cyclohexyl, Ph, 95, --, --, --, HCl 195-6°, HI

L4 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)
CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8-methyl- (CA INDEX NAME)



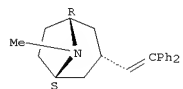
L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS ON STN (Continued)
222.5-4.0°, MeBr 250-5° HCl salt 1; IV, α , --, Ph, Et, --, --, --, --, HCl 214-15°, --; IV, α , --, Ph, 2-pyridyl, 78, 97.5-9.5°, --, --, tartrate 165-7°, picrate 204-6°, MeBr 227-8°, --; IV, α , --, Ph, 2-thienyl, 96, 65-70°, --, --, HCl 194-200° tartrate 174-5° picrate 209-10°, MeBr 258-9°, tartrate 0.1-1.0; IV, α , --, 2-thienyl, 2-thienyl, 76, --, --, --, HCl 230-2°, picrate 190-2°, MeBr 252-3°, HCl salt 1; V, α , --, Ph, Ph, --, --, --, citrate 174°, MeBr 280°, citrate 0.001, MeBr salt 0.01; VI, α , O, Me, Me, --, --, 109-11°/29, 1.4739, HCl 194-6° MeI 224-6°, --; VI, α , O, Ph, Ph, --, 70-2°, --, --, HCl above 310°, MeBr 277-8°, HCl 0.01, MeBr salt 0.1; VI, α , 1, Ph, Ph, --, --, --, --, HCl 244-5°, MeBr 257-8° HCl salt 1-10, MeBr 1; VI, α , 1, cyclohexyl, Ph, --, --, --, --, HCl 167.0-8.5°, citrate 153-5°, picrate 140-1°, MeBr 259-60°, citrate 0.1-1.0; VI, α , 1, 2-cyclohexylethyl, Ph, --, --, --, --, HCl 198-200°. --; VI, α , 1, Ph, 2-pyridyl, --, --, --, --, tartrate 78-80° picrate 201-3°, --; and VI, α , 2, Ph, Ph, --, --, --, --, citrate 170°, MeBr 277°, citrate 0.001-0.010, MeBr salt 0.01.
IT 99673-47-9P, Tropane, 3 α -(β -ethylstyryl)-, hydrochloride 101058-02-0P, Tropane, 3 α -(2,2-diphenylvinyl)- 101058-03-1P, Tropane, 3 α -(2,2-diphenylvinyl)-, picrate 102924-25-4P, 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-di-2-thienylethenyl)-8,8-dimethyl-, bromide 104763-78-2P, Tropane, 3 α -(β -2-thienylstyryl)- 104781-44-4P, Tropane, 3 α -(β -2-thienylstyryl)-, hydrochloride 106172-58-1P, Tropane, 3 α -(β -2-pyridylstyryl)- 106194-08-5P, Tropane, 3 α -(2,2-diphenylvinyl)-, hydrochloride 106300-51-0P, Tropane, 3 α -(2,2-di-2-thienylvinyl)-, hydrochloride 106801-38-1P, 3 α -(β -Cyclohexylstyryl)-8-methyltropanium bromide 106843-61-2P, Tropane, 3 α -(2,2-di-2-thienylvinyl)-, picrate 107063-12-7P, Tropane, 3 α -(β -2-pyridylstyryl)-, picrate 107063-70-7P, Tropane, 3 α -(β -2-thienylstyryl)-, picrate 107157-12-0P, Tropane, 3 α -(β -2-thienylstyryl)-, tartrate 107242-35-3P, Tropane, 3 α -(β -2-pyridylstyryl)-, tartrate 107422-05-9P, 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-(2-phenyl-2-(2-thienyl)ethenyl)-, bromide 107894-96-2P, 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-phenyl-2-(2-pyridinyl)ethenyl]-, bromide 108042-35-9P, 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8,8-dimethyl-, bromide
RL: PREP (Preparation)
(preparation of)
RN 99673-47-9 CAPLUS
CN Tropane, 3 α -(β -ethylstyryl)-, hydrochloride (7CI) (CA INDEX NAME)
Relative stereochemistry.
Double bond geometry unknown.



● HCl

RN 101058-02-0 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8-methyl-, endo- (9CI) (CA INDEX NAME)

Relative stereochemistry.

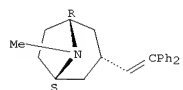


RN 101058-03-1 CAPLUS
CN Tropane, 3α-(2,2-diphenylvinyl)-, picrate (7CI) (CA INDEX NAME)

CM 1

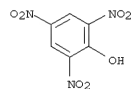
CRN 101058-02-0
CMF C22 H25 N

Relative stereochemistry.

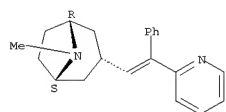


CM 2

CRN 88-89-1
CMF C6 H3 N3 O7

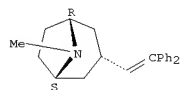


Relative stereochemistry.
Double bond geometry unknown.



RN 106194-08-5 CAPLUS
CN Tropane, 3α-(2,2-diphenylvinyl)-, hydrochloride (7CI) (CA INDEX NAME)

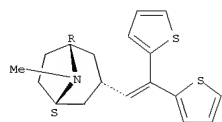
Relative stereochemistry.



● HCl

RN 106300-51-0 CAPLUS
CN Tropane, 3α-(2,2-di-2-thienylvinyl)-, hydrochloride (7CI) (CA INDEX NAME)

Relative stereochemistry.



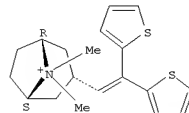
● HCl

RN 106801-38-1 CAPLUS
CN 3α-(β-Cyclohexylstyryl)-8-methyltropanium bromide (7CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.

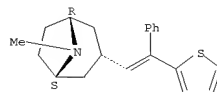
RN 102924-25-4 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-di-2-thienylethenyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

● Br⁻

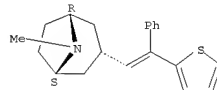
RN 104763-78-2 CAPLUS
CN Tropane, 3α-(β-2-thienylstyryl)- (7CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.



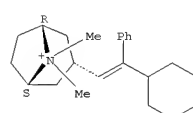
RN 104781-44-4 CAPLUS
CN Tropane, 3α-(β-2-thienylstyryl)-, hydrochloride (7CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.



● HCl

RN 106172-58-1 CAPLUS
CN Tropane, 3α-(β-2-pyridylstyryl)- (7CI) (CA INDEX NAME)

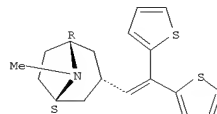
● Br⁻

RN 106843-61-2 CAPLUS
CN Tropane, 3α-(2,2-di-2-thienylvinyl)-, picrate (7CI) (CA INDEX NAME)

CM 1

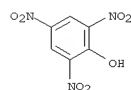
CRN 106843-60-1
CMF C18 H21 N S2

Relative stereochemistry.



CM 2

CRN 88-89-1
CMF C6 H3 N3 O7

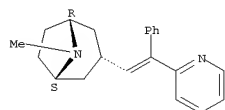


RN 107063-12-7 CAPLUS
CN Tropane, 3α-(β-2-pyridylstyryl)-, picrate (7CI) (CA INDEX NAME)

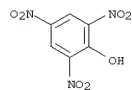
CM 1

CRN 106172-58-1
CMF C21 H24 N2

L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
Relative stereochemistry.
Double bond geometry unknown.

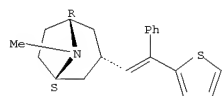


CM 2
CRN 88-89-1
CMF C6 H3 N3 O7



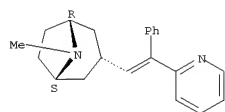
RN 107063-70-7 CAPLUS
CN Tropane, 3α-(β-2-thienylstyryl)-, picrate (7CI) (CA INDEX NAME)
CM 1
CRN 104763-78-2
CMF C20 H23 N S

Relative stereochemistry.
Double bond geometry unknown.



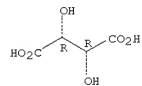
CM 2
CRN 88-89-1
CMF C6 H3 N3 O7

L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



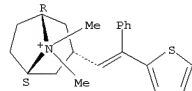
CM 2
CRN 87-69-4
CMF C4 H6 O6

Absolute stereochemistry.



RN 107422-05-9 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-phenyl-2-(2-thienyl)ethenyl]-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.

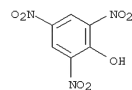


● Br⁻

RN 107894-96-2 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-phenyl-2-(2-pyridinyl)ethenyl]-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

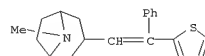
Relative stereochemistry.
Double bond geometry unknown.

L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



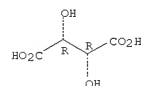
RN 107157-12-0 CAPLUS
CN Tropane, 3α-(β-2-thienylstyryl)-, tartrate (7CI) (CA INDEX NAME)

CM 1
CRN 102157-42-6
CMF C20 H23 N S



CM 2
CRN 87-69-4
CMF C4 H6 O6

Absolute stereochemistry.

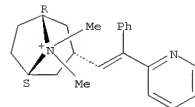


RN 107242-35-3 CAPLUS
CN Tropane, 3α-(β-2-pyridylstyryl)-, tartrate (7CI) (CA INDEX NAME)

CM 1
CRN 106172-58-1
CMF C21 H24 N2

Relative stereochemistry.
Double bond geometry unknown.

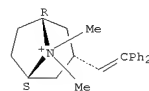
L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



● Br⁻

RN 108042-35-9 CAPLUS
CN 8-Azoniabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8,8-dimethyl-, bromide, (3-endo)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



● Br⁻

L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1958:93024 CAPLUS
 DOCUMENT NUMBER: 52:93024
 ORIGINAL REFERENCE NO.: 52:16402b-f
 TITLE: 8-Alkyltropane derivatives
 INVENTOR(S): Zirkle, Charles L.
 PATENT ASSIGNEE(S): Smith, Kline & French Laboratories
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| US 2800482 | | 19570723 | US 1955-519650 | 19550701 |

AB 3-Benzhydrylidene-tropane picrate m. 237-8° (aqueous alc.); methobromide, m. 281-5° (iso-PROH-Me2CO); etho(ethyl sulfate), white solid. Di(2-thienyl)-3-tropanylcarbinol (0.5 g.) in CHCl3 treated with dry HCl until strongly acid gave

2-[di(2-thienyl)methylidene]tropane-HCl, m. 224-5° (alc. Et2O). 1,1-Di(2-thienyl)-3-tropaneethanol (1 g.), 2 g. (CO2H)2, and 3 ml. H2O refluxed 2 hrs. gave

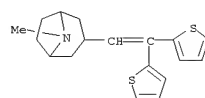
1,1-di(2-thienyl)-2-(3-tropanyl)ethylene, m. 74-6° (ligroine); picrate, m. 190-2° (aqueous Me2CO); HCl salt, m. 230-2° (alc. Et2O); methobromide, m. 252-3°. 1,1-Diphenyl-2-(3-tropanyl)ethylene methobromide, m. 286° (alc.); maleate; metho-p-toluene-sulfonate, white solid. 1-Phenyl-1-(2-thienyl)-3-tropaneethanol (9.7 g.), 19.4 g. (CO2H)2, and 29 ml. H2O refluxed 2 hrs. and the mixture made alkaline gave

1-phenyl-1-(2-thienyl)-2-(3-tropanyl)ethylene, m. 69-72°; picrate, m. 209-10°, tartrate, m. 174-5° (alc.-Et2O); methobromide, m. 258-9° (alc.-Et2O). 1-Phenyl-1-(2-pyridyl)-2-(3-tropanyl)ethylene methobromide, m. 228-30° (alc.-Et2O); tartrate, m. 165-7° (alc.-Et2O). 1-(2-Cyclohexylethyl)-1-phenyl-3-tropaneethanol (1 g.) in 10 ml. AcOH and 3 ml. 37% HCl refluxed 0.5 hr. gave the dehydration product, λ 235 mμ, log ε 3.58. 1-Cyclohexyl-1-phenyl-2-(3-tropanyl)ethylene-HI, m. 222.5-4.0°; methobromide, m. 250-3° (H2O); butiodide, white solid. 1,1-Diphenyl-3-tropaneethanol (15 g.) in 50 ml. 37% HCl 1.5 hrs. at 100° gave 1,1-diphenyl-3-(3-tropane-1-propene), m. 59-60°, b0.4 170-3°; citrate, m. 174°. 1-(2-Pyridyl)-1-p-tolyl-4-(3-tropanyl)-1-butanol (0.5 g.) and 2 ml. 85% H2SO4 heated 15 min. at 155° gave 1-(2-pyridyl)-1-p-tolyl-4-(3-tropanyl)-1-butene. A similar dehydration of 1-cyclopentyl-1-phenyl-3-tropaneethanol with HCl gave the corresponding butene as the HCl salt; neutralization with NH4OH gave the free base as a yellow oil.

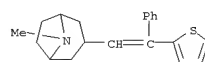
IT 101719-89-5, Tropane, 3-(2,2-di-2-thienylvinyl)-
 102157-42-6, Tropane, 3-β-2-thienylstyryl-
 110147-39-2, Tropane, 3-(β-2-pyridylstyryl)-
 (and derivs.)

RN 101719-89-5 CAPLUS
 CN Tropane, 3-(2,2-di-2-thienylvinyl)- (6CI) (CA INDEX NAME)

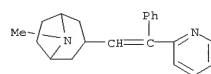
L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



RN 102157-42-6 CAPLUS
 CN Tropane, 3-β-2-thienylstyryl- (6CI) (CA INDEX NAME)

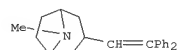


RN 110147-39-2 CAPLUS
 CN Tropane, 3-(β-2-pyridylstyryl)- (6CI) (CA INDEX NAME)



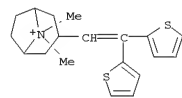
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 , 3-(2,2-Di-2-thienylvinyl)-8-methyltropanium bromide 114402-20-9P
 , Tropane, 3-(β-cyclohexylstyryl)-, hydriodide 119040-93-6P
 , 3-(β-Cyclohexylstyryl)-8-methyltropanium bromide
 124111-32-6P, 8-Butyl-3-(β-cyclohexylstyryl)tropanium iodide
 RL: PREP (Preparation)
 (preparation of)

RN 88543-22-0 CAPLUS
 CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8-methyl- (CA INDEX NAME)



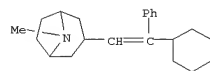
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L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



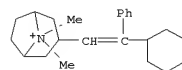
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RN 114402-20-9 CAPLUS
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● HI

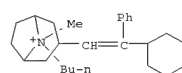
RN 119040-93-6 CAPLUS
 CN 3-(β-Cyclohexylstyryl)-8-methyltropanium bromide (6CI) (CA INDEX NAME)



● Br⁻

RN 124111-32-6 CAPLUS
 CN 8-Butyl-3-(β-cyclohexylstyryl)tropanium iodide (6CI) (CA INDEX NAME)

L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



● I⁻

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1958:93020 CAPLUS
DOCUMENT NUMBER: 52:93020
ORIGINAL REFERENCE NO.: 52:16399b-1,16400a-1,16401a
TITLE: 8-Alkyltropane derivatives
INVENTOR(S): Zirkle, Charles L.
PATENT ASSIGNEE(S): Smith, Kline & French Laboratories
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

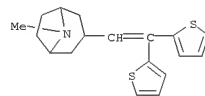
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| US 2800478 | | 19570723 | US 1955-519646 | 19550701 |

AB Some new physiologically active 3-substituted-8-alkyltropanes, the nontoxic organic and inorg. salts, and the quaternary ammonium salts are described. Me 3-(3-hydroxytropane)carboxylate (10 g.) in 50 ml. Ac2O heated 4 hrs. at 100°, the excess Ac2O and AcOH removed in vacuo, the residue poured into H2O, extracted with Et2O, and the Et2O evaporated gave Me 3-(3-acetoxytropane)-carboxylate (I), m. 66-7°, b15 162-5°. I (29 g.) added dropwise during 7 min. to a vertical tube heated to 420° and filled with pieces of Pyrex tubing, the apparatus swept with N, the product dissolved in dilute HCl, extracted with Et2O, the aqueous acid solution saturated with K2CO3, and the product separated gave Me 3-(2-tropane)carboxylate (II), b15 131-4°, n25.5D 1.4998. II (13 g.) in 100 ml. MeOH hydrogenated over 5 g. Raney Ni at 50 lb./sq. in. at room temperature and the mixture distilled gave Me 3-tropanecarboxylate (III), b18 128-32°, n25D 1.4819. III (10.1 g.) in 100 ml. Et2O stirred 1.5 hrs. at room temperature with a solution of PhLi (from 34.5 g. PhBr and 3.5 g. Li) in 100 ml. Et2O, the mixture added to 150 ml. H2O, and the solid collected and purified gave diphenyl-3-tropanecarbinol (IV), m. 185.5-6.0° (EtOAc). IV (5.6 g.) in 20 ml. AcOH and 25 ml. dilute HCl refluxed 10 min. and evaporated to dryness gave 3-benzhydrylidene-tropane-HCl, m. 275-8° (alc.-Et2O); free base (V), a colorless oil. (4 g.) in alc. hydrogenated over Raney Ni at 400 lb./sq. in. at 60° and the product chromatographed on Al2O3 gave 3-benzhydryltropane (VI), m. 70-2°. VI (1 g.) gave the HCl salt, unmelted below 310°; MeBr salt, m. 277-9°; etho(ethyl sulfate), white solid. Tropanone (13.9 g.), 11.3 g. NCCH2CO2Et, 1.6 g. NH4OAc, 7.3 g. AcOH, 20 ml. alc., and 0.6 g. Pd-C shaken under H at 50° and 60 lb./sq. in. gave Et α-cyano-3-tropaneacetate (VII), b0.3 116-18°, n24D 1.4942. VII (8 g.) in 30 ml. 37% HCl refluxed 13 hrs. and the crude 3-tropaneacetic acid-HCl esterified by leaving 3 days at room temperature in 50 ml. alc. with dry HCl gave Et 3-tropaneacetate (VIII), b2 104-5°, n25D 1.4774. VIII (42 g.) in 100 ml. Et2O similarly treated with PhLi gave 1,1-diphenyl-3-tropaneethanol (IX), m. 146.5-7.5° (EtOAc). IX (14.6 g.) in 29 ml. 37% HCl and 100 ml. AcOH refluxed 0.5 hr. gave 1,1-diphenyl-2-(3-tropanyl)ethylene (X), as the HCl salt, m. 217-18° (alc.-Et2O); free X, m. 109.5-10.0° (Me2CO). X (10 g.) in alc. hydrogenated over Raney Ni at 500 lb./sq. in. and 60° gave 1,1-diphenyl-2-(3-tropanyl)ethane, colorless oil; HCl salt, m. 244-5°, methobromide, m. 257-8° (alc.-Et2O);

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
0° gave 1-(p-anisyl)-1-phenyl-3-(N-isopropyl-nortropane)ethanol (XXIV), white solid. Dehydration of XXIV with oxalic acid and H2O gave the ethylene, which when hydrogenated as described above gave 1-(p-anisyl)-1-phenyl-2-(3-(N-isopropyl-nortropanyl)ethane, methobromide salt. VIII (164 g.) in 500 ml. Et2O refluxed 3 hrs. with 30 g. LiAlH4 in 2 l. Et2O gave 3-tropaneethanol (XXV), m. 63-4° (C6H6-ligroine). XXV (10 g.) in 50 ml. CHCl3 treated with 14.3 g. SOCl2, refluxed 45 min., and isolation gave 1-chloro-2-(3-tropanyl)ethane-HCl, m. 167-8° (alc.-Et2O); free base, b0.9 81°. The base (47 g.) and 0.1 g. NaI refluxed 17 hrs. with 49 g. KCN in 175 ml. alc. and 75 ml. H2O, NaOH added to the residual mixt., and the product isolated gave 3-tropanepropionitrile (XXVI), b0.3 114-16°, n25D 1.4958. XXVI (25 g.) in 100 ml. 37% HCl refluxed several hrs., and evapd., the residue dissolved in 300 ml. alc., 5 ml. concd. H2SO4 added, and the residue treated with 40% NaOH gave Et 3-tropanepronate (XXVII), b0.4 97-100°, n25D 1.4770. Similarly XXVII treated with PhLi gave 1,1-diphenyl-3-tropanepropanol (XXVIII), m. 141-2.5°. Dehydration of XXVII with concd. HCl and 40% NaOH added gave 1,1-diphenyl-3-(3-tropanyl)-1-propene (XXIX), b0.4 170-3°, m. 59-60°. XXIX (4.7 g.) hydrogenated over 5 g. Raney Ni gave 1,1-diphenyl-3-(3-tropanyl)propane as an oil; citrate, m. 170°, methobromide, m. 277°. XXVII reduced with 3 g. LiAlH4 gave 3-tropanepropanol (XXX), b2 128-31°. XXX (7.7 g.) treated with 10 g. SOCl2 gave the HCl salt, which treated with K2CO3 liberated 1-chloro-3-(3-tropanyl)propane (XXXI), b1 100-2°. XXXI (5 g.) refluxed 18 hrs. with 0.1 g. NaI, 5 g. KCN, 18 ml. alc., and 8 ml. H2O gave 3-tropanebutyronitrile (XXXII), b0.3 132-5°. XXXII (3 g.) refluxed several hrs. with concd. HCl and the product treated with 40% NaOH gave Et 3-tropanebutyrate (XXXIII), b0.5 115-19°. XXXIII (2.3 g.) similarly treated with p-tolyl magnesium bromide gave p-tolyl γ-(3-tropanyl)propyl ketone (XXXIV), b0.2 188-92°. XXXIV (1.5 g.) in 15 ml. Et2O treated with BuLi and 2-bromopyridine in Et2O gave 1-(2-pyridyl)-1-p-tolyl-3-tropanebutanol (XXXV), cryst. solid. XXXV (0.5 g.) dehydrated with 85% H2SO4, and the product reduced as described above gave 1-(2-pyridyl)-1-p-tolyl-4-(3-tropanyl)butane. II (9.2 g.) with MeLi gave dimethyl-3-tropanecarbinol, which was dehydrated by refluxing with AcOH and concd. HCl, and the product hydrogenated over Raney Ni to give 3-isopropyltropane as an oil. XXII (11.3 g.) treated with C6H13Li gave 1,1-dihexyl-3-(N-isopropyl-nortropane)ethanol (XXXVI), white solid. XXXVI (8 g.) refluxed 45 min. with AcOH and HCl gave an unsatd. product as the HCl salt which was hydrogenated over Raney Ni to 2-hexyl-1-(3-(N-isopropyl-nortropanyl)octane as an oil. XXXVII (14.3 g.) similarly treated with cyclopentylmagnesium bromide gave cyclopentyl 3-(3-tropanyl)propyl ketone (XXXVIII), b0.9 152-6°. XXXVII (3.5 g.) dehydrated and the product reduced over Raney Ni gave 1-cyclopentyl-1-phenyl-4-(3-tropanyl)butane, a colorless oil.
IT 101719-88-4 101719-89-5 102157-42-6
110377-10-1 111979-88-5 114402-20-9
114723-81-8 118801-08-4 119040-93-6
124111-32-6 124138-73-4
(Derived from data in the 6th Collective Formula Index (1957-1961))
RN 101719-88-4 CAPLUS
CN Tropane, 3-(2,2-di-2-thienylvinyl)-, hydrochloride (6CI) (CA INDEX NAME)

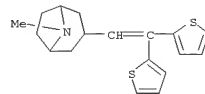
L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
metho-p-toluenesulfonate, white solid; maleate, obtained by treating with maleic acid in alc. VIII in 37% HCl refluxed several hrs. gave 3-tropaneacetic acid-HCl (XI), m. 172-4° (MeOH-Et2O). XI (11 g.) similarly treated with PhLi followed by passage of HCl gave the HCl salt which when washed was reconverted to phenyl 3-tropanylmethyl ketone (XII), b0.2 138-41°. BuLi (from 3.7 g. BuCl and 0.7 g. Li) in 25 ml. Et2O treated slowly at -45° with 5.5 g. 2-bromopyridine in 10 ml. Et2O, the mixt. stirred 10 min., and 2.5 g. XII in 30 ml. Et2O added slowly, the mixt. stirred 15 min. at -15°, 50 ml. H2O added, the mixt. stirred a further 15 min., a solid collected, the solid stirred with CHCl3 and H2O, and the CHCl3 layer removed, combined with the Et2O layer and evapd. gave 1-phenyl-1-(2-pyridyl)-3-tropaneethanol (XIII), m. 117-18.5° (EtOAc). XIII (1 g.) and 2 ml. 85% H2SO4 heated 15 min. at 155° and the soln. made basic gave 1-phenyl-1-(2-pyridyl)-2-(3-tropanyl)ethylene (XIV), m. 97.5-9.5° (Me2CO). XIV (0.2 g.), 5 g. cyclohexene, and 0.3 g. 20% Pd-C refluxed 48 hrs. gave 1-phenyl-1-(2-pyridyl)-2-(3-tropanyl)ethane (XV) as a thick oil; picrate, m. 201-3° (aq. Me2CO). XV also forms the tartrate, m. 78-80° (alc.-Et2O). XII (12.2 g.) in 50 ml. Et2O added slowly to EtMgBr soln. (from 7.3 g. Mg) at 0°, the mixt. stirred 1.5 hrs. at room temp., then refluxed 1.5 hrs., decompd. with ice and 21 g. NH4Cl in 50 ml. H2O, the Et2O layer removed, and the aq. phase extd. with CHCl3 gave 1-ethyl-1-phenyl-3-tropaneethanol (XVI), m. 119-20°. XVI (0.44 g.) was dehydrated by heating 40 min. at 100° with 3 ml. concd. HCl to the ethylene, m. 170-200°. The ethylene hydrogenated in alc. over Raney Ni at 60° and 500 lb./sq. in. gave 1-ethyl-1-phenyl-2-(3-tropanyl)ethane (XVII), an oil, which formed an HCl salt. VIII (15 g.) similarly treated with 2-cyclohexylethylmagnesium bromide gave 2-cyclohexylethyl 3-tropanylmethyl ketone (XVIII), b0.7 157-64°, n24.5D 1.5010. XVIII (7.7 g.) in 20 ml. Et2O similarly treated with PhLi (from 9.5 g. PhBr) in Et2O at 0° gave 1-(2-cyclohexylethyl)-1-phenyl-3-tropaneethanol (XIX), m. 104-6° (EtOAc). XIX (0.5 g.), 1 ml. HI, 3 ml. AcOH, and 0.13 g. red P refluxed 3.5 hrs., the soln. filtered, the filtrate dild. with H2O, the crude HI salt sepd. as an oil and crystd. gave 1-(2-cyclohexylethyl)-1-phenyl-2-(3-tropanyl)ethane-HI, m. 175° (alc.-Et2O). The free base was a colorless oil; HCl salt, m. 198-200°. Similarly, 25 g. VIII reacted with cyclohexylmagnesium bromide to give cyclohexyl 3-tropanylmethyl ketone (XX), b0.9-1.1 142-53°, crystg. to a white solid on standing. XX (10 g.) similarly treated with PhLi gave 1-cyclohexyl-1-phenyl-3-tropaneethanol (XXI), m. 139-40.5° (EtOAc). XXI (1 g.) refluxed 0.5 hr. with AcOH and concd. HCl gave the ethylene salt, m. 195-6°. Hydrolysis gave the free base as an oil. The free base (4.4 g.) hydrogenated over Raney Ni at 500 lb./sq. in. and 60° gave 1-cyclohexyl-1-phenyl-2-(3 tropanyl)ethane, colorless oil; HCl salt, m. 167-8.5°; citrate, m. 153-5°, butiodide, white solid. N-Isopropyl-nortropanone (16.7 g.), 11.3 g. NCCH2CO2Et, 1.6 g. NH4OAc, 7.3 g. AcOH, 20 ml. alc., and 0.6 g. Pd-C shaken with H at 60 lb./sq. in. and 60°, the residue refluxed 12 hrs. with concd. HCl gave crude 3-(N-isopropyl-nortropane)-acetic acid-HCl which was esterified with anhyd. MeOH and HCl 3 days at room temp. gave Me 3-(N-isopropyl-nortropane)acetate (XXII), b0.3 124-7°. XXII (11.3 g.) similarly treated with p-anisylmagnesium bromide gave p-anisyl 3-(N-isopropyl-nortropanyl)methyl ketone (XXIII), b0.2 160-4° and crystd. as a white solid. XXIII (7.5 g.) similarly treated with PhLi at

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

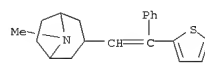


● HCl

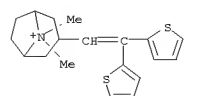
RN 101719-89-5 CAPLUS
CN Tropane, 3-(2,2-di-2-thienylvinyl)- (6CI) (CA INDEX NAME)



RN 102157-42-6 CAPLUS
CN Tropane, 3-β-2-thienylstyryl- (6CI) (CA INDEX NAME)



RN 110377-10-1 CAPLUS
CN 3-(2,2-Di-2-thienylvinyl)-8-methyltropanium bromide (6CI) (CA INDEX NAME)



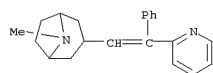
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RN 111979-88-5 CAPLUS
CN Tropane, 3-(β-2-pyridylstyryl)-, methobromide (6CI) (CA INDEX NAME)

CM 1

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

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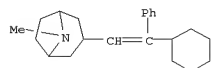


CM 2

CRN 74-83-9
CMF C H3 Br

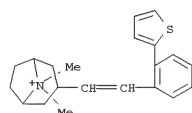
Br⁻CH₃

RN 114402-20-9 CAPLUS
CN Tropane, 3-(β-cyclohexylstyryl)-, hydriodide (6CI) (CA INDEX NAME)



● HI

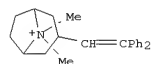
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CN 8-Azoniabicyclo[3.2.1]octane, 8,8-dimethyl-3-[2-(2-thienyl)phenyl]ethenyl]-, bromide (9CI) (CA INDEX NAME)



● Br⁻

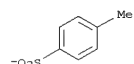
RN 118801-08-4 CAPLUS
CN 3-(2,2-Diphenylvinyl)-8-methyltropanium bromide (6CI) (CA INDEX NAME)

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

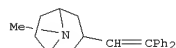


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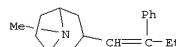
CRN 16722-51-3
CMF C7 H7 O3 S



IT 88543-22-0P, Tropane, 3-(2,2-diphenylvinyl)- 101892-62-0P, Tropane, 3-(β-ethylstyryl)-, hydrochloride 102544-88-7P, Tropane, 3-(β-cyclohexylstyryl)-, hydrochloride 102544-89-8P, Tropane, 3-(β-cyclohexylstyryl)- 102663-21-8P, Tropane, 3-(2,2-diphenylvinyl)-, hydrochloride 110147-39-2P, Tropane, 3-(β-2-pyridylstyryl)- 113927-52-9P, Nortropine, 8-isopropyl-3-(p-methoxy-β-phenylstyryl)-
RL: PREP (Preparation)
(preparation of)
RN 88543-22-0 CAPLUS
CN 8-Azabicyclo[3.2.1]octane, 3-(2,2-diphenylethenyl)-8-methyl- (CA INDEX NAME)



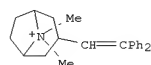
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CN Tropane, 3-(β-ethylstyryl)-, hydrochloride (6CI) (CA INDEX NAME)



● HCl

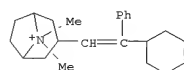
RN 102544-88-7 CAPLUS
CN Tropane, 3-(β-cyclohexylstyryl)-, hydrochloride (6CI) (CA INDEX NAME)

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



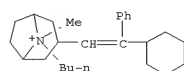
● Br⁻

RN 119040-93-6 CAPLUS
CN 3-(β-cyclohexylstyryl)-8-methyltropanium bromide (6CI) (CA INDEX NAME)



● Br⁻

RN 124111-32-6 CAPLUS
CN 8-Butyl-3-(β-cyclohexylstyryl)tropanium iodide (6CI) (CA INDEX NAME)



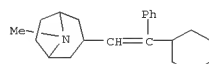
● I⁻

RN 124138-73-4 CAPLUS
CN 3-(2,2-Diphenylvinyl)-8-methyltropanium p-toluenesulfonate (6CI) (CA INDEX NAME)

CM 1

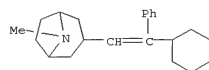
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CMF C23 H28 N

L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

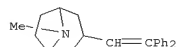


● HCl

RN 102544-89-8 CAPLUS
CN Tropane, 3-(β-cyclohexylstyryl)- (6CI) (CA INDEX NAME)

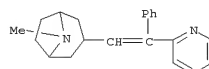


RN 102663-21-8 CAPLUS
CN Tropane, 3-(2,2-diphenylvinyl)-, hydrochloride (6CI) (CA INDEX NAME)

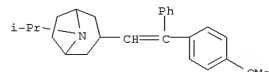


● HCl

RN 110147-39-2 CAPLUS
CN Tropane, 3-(β-2-pyridylstyryl)- (6CI) (CA INDEX NAME)



RN 113927-52-9 CAPLUS
CN Nortropine, 8-isopropyl-3-(p-methoxy-β-phenylstyryl)- (6CI) (CA INDEX NAME)



=> FIL STNGUIDE
COST IN U.S. DOLLARS

| SINCE FILE | TOTAL |
|------------|---------|
| ENTRY | SESSION |
| 72.77 | 251.34 |

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

| SINCE FILE | TOTAL |
|------------|---------|
| ENTRY | SESSION |
| -10.40 | -10.40 |

CA SUBSCRIBER PRICE

FILE 'STNGUIDE' ENTERED AT 08:24:04 ON 12 FEB 2008
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Feb 8, 2008 (20080208/UP).

=> d his

(FILE 'HOME' ENTERED AT 08:21:19 ON 12 FEB 2008)

FILE 'REGISTRY' ENTERED AT 08:21:28 ON 12 FEB 2008

L1 STRUCTURE UPLOADED
L2 5 S L1
L3 116 S L1 FULL

FILE 'CAPLUS' ENTERED AT 08:21:53 ON 12 FEB 2008

L4 13 S L3 FULL

FILE 'STNGUIDE' ENTERED AT 08:24:04 ON 12 FEB 2008

=> log y
COST IN U.S. DOLLARS

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FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

| SINCE FILE | TOTAL |
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| ENTRY | SESSION |
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CA SUBSCRIBER PRICE

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